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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/043,460	01/10/2002	Daisuke Terasawa	PA990314C1	7097
23696	7590	04/06/2005	EXAMINER	
Qualcomm Incorporated Patents Department 5775 Morehouse Drive San Diego, CA 92121-1714			GHULAMALI, QUTBUDDIN	
			ART UNIT	PAPER NUMBER
			2637	

DATE MAILED: 04/06/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/043,460	TERASAWA ET AL.	
	Examiner	Art Unit	
	Qutub Ghulamali	2637	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 January 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>1/10/02</u> | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Double Patenting

1. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

2. Claims 1-20 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 1-20 of U.S. Patent No. 6,385,264. Although the conflicting claims are not identical, they are not patentably distinct from each other because claims of the application are clearly encompassed by claims U.S. Patent No. 6,385,264. In other words, every limitations of the application are included in the patent, except, claims 1 and 11.

Regarding claims 1 and 11 of the instant application recites "receiving said primary synchronization channel" and "receiver for receiver said primary synchronization channel" respectively, whereas in the US Patent "transmitting said primary synchronization channel" and "transmitter for transmitting said primary synchronization channel" respectively, is claimed. In order to receive a transmitted said primary synchronization channel, a receiver is essentially required for receiving said primary synchronization channel. Given the facts, it would have been

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obvious to one skilled in the art at the time the invention was made to present the claim in an alternate way so as to minimize cost and allow the base station to acquire the transmitted synchronization channel.

Regarding claims 2-10 and 12-20 in the instant application are mirror copies (verbatim recitation) of claims 2-10 and 12-20, claimed in the patent.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1 and 11 are rejected under 35 U.S.C. 102(e) as being anticipated by Chitrapu et al (US Pub. 2003/0031162).

Regarding claims 1 and 11, Chitrapu discloses an apparatus and a method having a plurality of base station, first base station and second base stations both sharing a same primary synchronization code (PSC) (abstract) comprising:
generating a primary synchronization channel having said primary synchronization code (abstract; col. 1, section 0004);

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rotating said primary synchronization channel (PSC) in phase according to a phase rotation sequence (col. 3, sections 0034, 0035); and
receiver for receiving said primary synchronization channel (col. 1, sections 0003 and 0009).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claim 2 rejected under 35 U.S.C. 103(a) as being unpatentable over Chitrapu et al (US Pub. 2003/0031162) in view of Sriram et al (US Pub. 2005/0018646).

Regarding claims 2 and 12, Chitrapu discloses every feature of the claimed invention to claim 1. Chitrapu, however, is silent regarding phase rotation sequence is pseudorandom. In the same field of endeavor, Sriram discloses WCDMA base station broadcast primary and secondary synchronization codes with a mobile receiver wherein phase rotation sequence is pseudorandom (col. 1, section 0005). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use PN phase rotation sequence as taught by Sriram in the apparatus of Chitrapu because it can minimize the spreading of transmitted signal over a wide bandwidth.

Regarding claims 3, 4, 13 and 14, Chitrapu in combination with Sriram disclose every feature of the claimed invention to claims 2 and 12, Chitrapu, however, further discloses phase

rotation sequence includes changing phase rotation once per slot (time slot) and once per frame (figs. 2A, B; col. 1, sections 0004, 0026, 0028).

Regarding claims 7 and 17, Chitrapu in combination with Sriram disclose every feature of the claimed invention to claims 1-2, 11-12 above. Chitrapu, however, further discloses, generating a secondary synchronization channel having a secondary synchronization code, said phase rotation sequence being based at least in part on said secondary synchronization code (SSC) (abstract; col. 1, sections 0004, 0006, 0009, 0037).

Regarding claims 8 and 9, Chitrapu in combination with Sriram disclose every feature of the claimed invention to claims 1, 2, 7 above. Chitrapu, however, further discloses combining (adding) said primary synchronization channel and said secondary synchronization channel to produce a synchronization channel (col. 3, sections 0035, 0036); wherein said step of rotating said primary synchronization channel in phase comprises rotating said primary synchronization channel before said combining (adding) step (col. 3, sections 0035, 0036, 0037, 0038).

Regarding claims 18 and 19, Chitrapu in combination with Sriram disclose every feature of the claimed invention to claims 11, 12, 17 above. Chitrapu, however further discloses (fig. 5) a first combiner (31) for combining said primary synchronization channel and said secondary synchronization channel to produce a synchronization channel (col. 2, section 0029); wherein said phase rotator (34) is coupled between an output of said primary synchronization channel generator and an input of said first combiner (col. 3, sections 0035, 0036).

7. Claims 10 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chitrapu et al (US Pub. 2003/0031162) in view Sriram et al (US Pub. 2005/0018646) as applied

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to claims 1, 2, 7 and 11, 12, 17 above and further in view of applicant's admitted prior art (instant application).

Regarding claims 10 and 20, Chitrapu in combination with Sriram disclose every feature of the claimed invention to claims 1, 2, 7 and 11, 12, 17 above. Chitrapu and Sriram combination, however, is silent regarding generating a dedicated channel, wherein synchronization and dedicated channel are combined to produce a downlink channel. However, the applicant's admitted prior (fig. 2; page 4, lines 9-18) discloses combining (216) synchronization channel (214) and dedicated channel (218) to produce a downlink channel. It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the synchronization channel with the dedicated channel to produce a downlink channel as taught by prior art of the instant application in the system of Chitrapu and Sriram so as to minimize interference in signals while communicating data.

8. Claims 5, 6, 15 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chitrapu et al (US Pub. 2003/0031162) in view of Sriram et al (US Pub. 2005/0018646) as applied to claims 1-4 and 11-14 above, and further in view of Heiter (US Patent 4,232,399).

Regarding claims 5, 6, 15 and 16, Chitrapu and Sriram together, disclose all limitations of claims 1-4 and 11-14 above. Chitrapu and Sriram disclosure however, is silent regarding changing phase by integer multiples of $\pi/2$ radians. Heiter, in a similar field of endeavor, discloses a phase circulator (phase shifter or rotator) changing phase by integer multiples of $\pi/2$ radians (multiples of 90 degrees) (abstract; col. 1, lines 45-54). It would have been obvious to one of ordinary skill in the art at the time the invention was made to use phase change by integer

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multiples of angular rotation as taught by Heiter in the system of Chitrapu and Sriram because it can minimize phase error loss and allow keeping the signals together.

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

US Patents:

Ben-Eli et al (US Pub. 2003/0081633) discloses a method and apparatus of pilot signal synchronization and module of frequency acquisition.

Blanz et al (USP 6,847,630) shows communication in an asynchronous cellular wireless network.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Qutub Ghulamali whose telephone number is (571) 272-3014.

The examiner can normally be reached on Monday-Friday from 8:00AM - 5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jay Patel can be reached on (571) 272-2988. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

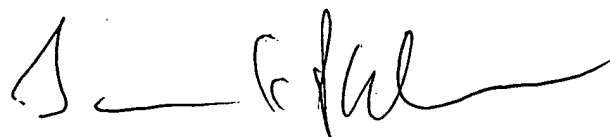
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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



QG.

April 1, 2005.



JAY K. PATEL
SUPERVISORY PATENT EXAMINER